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ABSTRACT

This booklet presents the high school assessment program for geometry by listing Maryland's Core Learning Goals. The match of content indicators and the skills for successful elaborations in thinking, communication, and technology regarding geometry are discussed. (ASK)

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ED 439 021

HIGH SCHOOL ASSESSMENT PROGRAM

GEOMETRY

Showing the Match of The Content Indicators and The Skills For Success Elaborations in

- Thinking
- Communication
- Technology

As of 6/30/99

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Maryland Core Learning Goals
Geometry

Indicator: 2.1.1 ***The student will analyze the properties of geometric figures and will construct or draw geometric figures, using technology and tools.***

Skills For Success Indicator and Elaboration Matches:

Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.2 Determine underlying concepts and assumption on which ideas, issues, or positions are based in specific situations.

2.3.3 Identify explicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.4 Determine implicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.5 Determine the extent to which explicit and implicit concepts and assumptions support or refute, ideas, or positions.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.3 Evaluate criteria for clarity, relevance, and usefulness.

2.4.7 Evaluate the effectiveness of criteria.

2.6 The student will evidence and/or reason to support or refute ideas, issues, or positions.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.5 Represent analyses verbally and nonverbally.

2.6.7 Present analyses to others and reads or listens actively to their responses.

2.6.8 Compare own analyses of ideas, issues, or positions with analyses presented to others.

4.1 The student will understand situations within which problems are found.

4.1.1 Describe situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect on problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.3 The student will construct spoken and other messages in forms appropriate to purposes, audiences, and situations.

1.3.4 Represent key ideas or information explicitly in verbal, nonverbal, or electronic codes.

1.4 The student will use writing skills and strategies to construct written messages.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

Goal 4: Technology Skills

1.1 The student will identify and use resources and strategies for keeping abreast of advances in technologies.

1.1.1 Identify multiple sources of information such as human, print, or electronic advances in technologies.

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.2 Identify technologies used to meet needs.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.5 Identify and evaluate different technological solutions for the same or similar uses in specific situations.

1.3.6 Compare analyses and evaluations with others.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 The student will use technologies in a safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communicate information.

2.3.5 Use technological systems and devices to communicate information effectively.

2.4 The student will use appropriate technologies for research, creativity, and problem solving.

2.4.3 Identify resources to meet needs, including tools, machines, devices, materials, energy, information, capital, trained personnel, and time.

2.4.5 Use existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purposes.

2.4.9 Make improvements in designs or uses of technologies as necessary.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will demonstrate an understanding of the impact of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Geometry

Indicator: 2.1.2 ***The student will identify and verify properties of geometric figures using the coordinate plane and concepts from algebra.***

Skills For Success Indicator and Elaboration Matches:

Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.3.2 Determine underlying concepts and assumptions on which ideas, issues, or positions are based in specific situations.

2.3.4 Determine implicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.5 Determine the extent to which explicit and implicit concepts and assumptions support or refute, ideas, or positions.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.1 Identify ideas, issues, or positions in specific situations.

2.4.2 Establish criteria for evaluating ideas, issues, or positions, based on purposes in specific situations.

2.4.6 Evaluate the effectiveness of criteria.

2.6 The student will evidence and/or reason to support or refute ideas, issues, or positions.

2.6.1 Identify ideas, issues, or positions in specific situations.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

Goal 3: Communication Skills

1.3 The student will construct spoken and other messages in forms appropriate to purposes, audiences, and situations.

1.3.4 Represent key ideas or information explicitly in verbal, nonverbal, or electronic codes.

1.4 The student will use writing skills and strategies to construct written messages.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

Maryland Core Learning Goals
Geometry

Indicator: 2.1.3 The student will use transformations to move figures, create designs, and/or demonstrate geometric properties.

Skills For Success Indicator and Elaboration Matches:

Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

1.2 The student will represent creative ideas in forms appropriate to purposes and situations.

1.2.1 Identify intended uses of ideas in specific situations.

1.2.2 Determine relevance, usefulness, and originality of ideas for specific purposes and situations.

1.2.3 Represent ideas clearly and concisely.

1.2.5 Determine forms of presentation most appropriate to ideas, purposes, and situations.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.2 The student will evaluate solutions and strategies used to solve problems.

4.2.3 Identify information needed to solve problems.

Goal 3: Communication Skills

1.3 The student will construct spoken and other messages in forms appropriate to purposes, audiences, and situations.

1.3.4 Represent key ideas or information explicitly in verbal, nonverbal, or electronic codes.

1.4 The student will use writing skills and strategies to construct written messages.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

Maryland Core Learning Goals
Geometry

Indicator: 2.1.4 ***The student will validate properties of geometric figures using appropriate tools and technology.***

Skills For Success Indicator and Elaboration Matches:

Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.4 Determine implicit concepts and assumptions that support or refute, ideas, issues, or positions.

2.4 The student will establish clear criteria for evaluating ideas, issues, or positions.

2.4.4 Present and listen to alternative criteria and rationales for them.

2.4.6 Evaluate issues, ideas, or positions, using specific criteria.

2.6 The student will evidence and/or reason to support or refute ideas, issues, or positions.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.6 Support or refute representations of ideas, issues, or positions, using analyses of evidence and reasoning.

4.1 The student will understand situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.3 Identify information needed to solve problems.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

Goal 3: Communication Skills

1.3 The student will construct spoken and other messages in forms appropriate to purposes, audiences, and situations.

1.3.4 Represent key ideas or information explicitly in verbal, nonverbal, or electronic codes.

1.4 The student will use writing skills and strategies to construct written messages.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

2.3 The student will use reading skills and strategies to gather, information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will evaluate the usefulness of information gained for specific purposes.

2.4.3 Determine the validity of the use of information for specific purposes.

Goal 4: Technology Skills

1.1 The student will identify and use resources and strategies for keeping abreast of advances in technologies.

1.1.1 Identify multiple sources information such as human, print, or electronic advances in technologies.

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.2 Identify technologies used to meet the criteria.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.5 Identify and evaluate different technological solutions for the same or similar uses in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 The student will use technologies in a safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.3 The student will use appropriate technologies to access, store, manage, analyze, and communication information.

2.3.5 Use technological systems and devices to communicate information effectively.

2.3.8 Make changes in uses of technologies as appropriate.

2.4 The student will use appropriate technologies for research, creativity, and problem solving.

2.4.3 Identify resources to meet needs, including tools, machines, devices, materials, energy, information, capital, trained personnel, and time.

2.4.5 Use existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purposes.

2.4.9 Make improvements in designs or uses of technologies as necessary.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will demonstrate an understanding of the impact of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Geometry

Indicator: 2.2.1 ***The student will identify and verify congruent and similar figures and apply equality of proportionality of their corresponding parts.***

Skills For Success Indicator and Elaboration Matches:

Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.3.2 Determine underlying concepts and assumptions on which ideas, issues, of positions are based in specific situations.

2.3.3 Identify explicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.4 Determine implicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.7 Compare alternative analyses.

2.6 The student will evidence and/or reason to support or refute ideas, issues, or positions.

2.6.1 Identify ideas, issues, or positions in specific situations.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

4.1 The student will understand situations within which problems are found.

4.1.1 Describe situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.1 Identify information in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.4 Determine how much needed information is explicit in situations and how much can be inferred or developed.

4.2.5 Redefine problems in light of available information.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.4.6 Review preceding work and decisions if outcomes in each stage.

4.4.7 Adjust uses of strategies or change strategies as necessary.

4.5 The student will evaluate and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.4 Compares solutions with solutions by others.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect on problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.3 The student will construct spoken and other messages in forms appropriate to purposes, audiences, and situations.

1.3.4 Represent key ideas or information explicitly in verbal, nonverbal, or electronic codes.

1.4 The student will use writing skills and strategies to construct written messages.

1.4.8 Gather information, take notes, free-write, or prepare outlines as appropriate during prewriting.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

1.4.12 Evaluate written messages for quality and effectiveness from the perspectives of purposes and audiences.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

3.2 The student will identify communication problems and solve them as necessary.

3.2.6 Choose and use problem-solving strategies, when necessary, that contribute to achievement of purposes and needs of audiences.

Goal 4: Technology Skills

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.1 Identify specific needs for technologies in information search and management, communication, work, problem solving, and other uses.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.5 Identify and evaluate different technological solutions for the same or similar uses in specific situations.

1.3.6 Compare analyses and evaluations with others.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 The student will use technologies in a safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological system and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and, machines.

2.4 The student will use appropriate technologies for research, creativity, and problem solving.

2.4.1 Identify needs for technologies to increase productivity, to do research, for creative expression, to solve problems, and for other purposes.

2.4.2 Determine how technologies can meet these kinds of needs in specific situations.

2.4.5 Use existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purpose.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will demonstrate an understanding of the impact of technologies on individuals, society, and the equipment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Geometry

Indicator: 2.2.2 ***The student will solve problems using two-dimensional figures and/or right-triangle trigonometry.***

Skills For Success Indicator and Elaboration Matches:

Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.3.2 Determine underlying concepts and assumptions on which ideas, issues, or positions.

2.3.3 Identify explicit concepts and assumptions that support or refute ideas, or positions.

2.3.4 Determine implicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.7 Compare alternative analyses.

2.6 The student will evidence and/or reason to support or refute ideas, issues, or positions.

2.6.1 Identify ideas, issues, or positions in specific situations.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

4.1 The student will understand situations within which problems are found.

4.1.1 Describe situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solutions of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.1 Identify information in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.4 Determine how much needed information is explicit in situations and how much can be inferred or developed.

4.2.5 Redefine problems in light of available information.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of time.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.4.6 Review preceding work and decisions if outcomes in each stage.

4.4.7 Adjust uses of strategies or change strategies as necessary.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.4 Compares solutions with solutions by others.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect on problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.3 The student will construct spoken and other messages in forms appropriate to purposes, audiences, and situations.

1.3.4 Represent key ideas or information explicitly in verbal, nonverbal, or electronic codes.

1.4 The student will use writing skills and strategies to construct written messages.

1.4.8 Gather information, take notes, free-write, or prepare outlines as appropriate during prewriting.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

1.4.12 Evaluate written messages for quality and effectiveness from the perspectives of purposes and audiences.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

3.2 The student will identify communication problems and solve them as necessary.

3.2.6 Choose and use problem-solving strategies, when necessary, that contribute to achievement of purposes and needs of audiences.

Goal 4: Technology Skills

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.1 Identify specific needs for technologies in information search and management, communication, work, problem solving and other uses.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.5 Identify and evaluate different technological solutions for the same or similar uses in specific situations.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 The student will use technologies in a safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.4 The student will use appropriate technologies for research, creativity, and problem solving.

2.4.1 Identify needs for technologies to increase productivity, to do research, for creative expression, to solve problems, and for other purposes.

2.4.2 Determine how technologies can meet these kinds of needs in specific situations.

2.4.5 Use existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purposes.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will demonstrate an understanding of the impact of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Geometry

Indicator: 2.2.3 ***The student will identify or use inductive and deductive reasoning.***

Skills For Success Indicator and Elaboration Matches:

Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.3.2 Determine underlying concepts and assumptions on which ideas, issues, or positions are based in specific situations.

2.3.3 Identify explicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.4 Determine implicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.5 Determine the extent to which explicit and implicit concepts and assumptions support or refute ideas, issues, or positions.

2.3.7 Compare alternative analyses.

2.6 The student will evidence and/or reason to support or refute ideas, issues, or positions.

2.6.1 Identify ideas, issues, or positions in specific situations.

2.6.2 Identify evidence and reasoning used to support or refute ideas, issues, or positions.

2.6.3 Determine the relevance and validity of evidence and reasoning used to support or refute ideas, issues, or positions.

4.1 The student will understand situations within which problems are found.

4.1.1 Describe situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.1 Identify information in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.4 Determine how much needed information is explicit in situations and how much can be inferred or developed.

4.2.5 Redefine problems in light of available information.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.4.3 Identify expected outcome in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.4.6 Review preceding work and decisions if outcomes in each stage.

4.4.7 Adjust uses of strategies or change strategies as necessary.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.4 Compares solutions with solutions by others.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect on problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

4.5.11 Adjust or refine problem-solving strategies as necessary.

Goal 3: Communication Skills

1.3 The student will construct spoken and other messages in forms appropriate to purposes, audiences, and situations.

1.3.4 Represent key ideas or information explicitly in verbal, nonverbal, or electronic codes.

1.4 The student will use writing skills and strategies to construct written messages.

1.4.8 Gather information, take notes, free-write, or prepare outlines as appropriate during prewriting.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

1.4.12 Evaluate written messages for quality and effectiveness from the perspectives of purposes and audiences.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretation of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will evaluate the usefulness of information gained for specific purposes.

2.4.3 Determine the validity of the use of information for specific purposes.

2.4.4 Identify bias, misinterpretation, misuse of information, inaccurate or insufficient information, failures in logic or reason, and so forth.

3.2 The student will identify communication problems and solve them as necessary.

3.2.6 Choose and use problem-solving strategies, when necessary, that contribute to achievement of purposes and needs of audiences.

Goal 4: Technology Skills

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the uses of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.6 Compare analyses and evaluations with others.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 The student will use technologies in safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.4 The student will use appropriate technologies for research, creativity, and problem solving.

2.4.1 Identify needs for technologies to increase productivity, to do research, for creative expression, to solve problems, and for other purposes.

2.4.2 Determine how technologies can meet these kinds of needs in specific situations.

2.4.5 Use existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purposes.

2.5 The student will monitor, evaluate, and plan to improve personal use of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will demonstrate an understanding of the impact of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Geometry

Indicator: ***2.3.1*** ***The student will use algebraic and geometric properties to measure indirectly.***

Skills For Success Indicator and Elaboration Matches:

Goal 2: Thinking Skills

1.1 The student will develop alternative perspectives or ways of thinking and acting in complex situations.

1.1.1 Express thoughts relevant to situations.

2.3 The student will examine basic concepts and assumptions underlying ideas, issues, or positions.

2.3.1 Identify ideas, issues, or positions in specific situations.

2.3.2 Determine underlying concepts and assumptions on which ideas, issues, or positions are based in specific situations.

2.3.3 Identify explicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.4 Determine implicit concepts and assumptions that support or refute ideas, issues, or positions.

2.3.7 Compare alternative analyses.

4.1 The student will understand situations within which problems are found.

4.1.1 Describe situations within which problems are found.

4.1.2 Identify important information, assumptions, relationships, and perspectives that may affect identification, understanding, and solution of problems in specific situations.

4.1.3 Determine missing information that may affect understanding and solving problems in specific situations.

4.1.4 Represent understanding of situations verbally or nonverbally.

4.2 The student will define problems in specific situations.

4.2.1 Identify information in specific situations.

4.2.3 Identify information needed to solve problems.

4.2.4 Determine how much needed information is explicit in situations and how much can be inferred or developed.

4.2.5 Redefine problems in light of available information.

4.2.6 Determine whether or not problems can be solved with available information.

4.2.7 Anticipate the forms possible solutions might take.

4.3 The student will identify and evaluate alternative ways of solving problems.

4.3.1 Identify strategies that have worked in similar problem situations.

4.3.2 Match potential problem-solving strategies with expected solutions, available information, and similarity of situations.

4.3.3 Identify knowledge, resources, and skills required to solve problems.

4.3.4 Identify strategies that seem most appropriate to situations, expected solutions, knowledge, available information and resources, and available levels of skills.

4.4 The student will select and use appropriate strategies to solve problems.

4.4.1 Select and use strategies that seem most appropriate to problems, problem-solving, and specific situations.

4.4.2 Divide problem-solving processes into several anticipated stages, if necessary or helpful.

4.4.3 Identify expected outcomes in each stage.

4.4.4 Monitor problem-solving processes through each stage.

4.4.5 Compare expected outcomes with actual outcomes in each stage.

4.4.6 Review preceding work and decisions if outcomes in each stage.

4.4.7 Adjust uses of strategies or change strategies as necessary.

4.5 The student will evaluate solutions and strategies used to solve problems.

4.5.1 Establish criteria for evaluating solutions.

4.5.2 Evaluate solutions, using specific criteria.

4.5.3 Compare actual solutions with expected solutions.

4.5.4 Compares solutions with solutions by others.

4.5.5 Rework problems if solutions fail to meet criteria.

4.5.6 Determine where original problem-solving strategies went wrong, if necessary.

4.5.7 Reflect on problem-solving strategies in specific situations.

4.5.8 Determine what worked, what did not, and what other problems might be solved with specific strategies.

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Goal 3: Communication Skills

1.3 The student will construct spoken and other messages in forms appropriate to purposes, audiences, and situations.

1.3.4 Represent key ideas or information explicitly in verbal, nonverbal, or electronic codes.

1.4 The student will use writing skills and strategies to construct written messages.

1.4.8 Gather information, take notes, free-write, or prepare outlines as appropriate during prewriting.

1.4.11 Proofread for spelling, punctuation, and grammar and edits as necessary.

1.4.12 Evaluate written messages for quality and effectiveness from the perspectives of purposes and audiences.

2.3 The student will use reading skills and strategies to gather information and interpret written messages.

2.3.9 Construct interpretations of text messages in verbal and nonverbal forms, using text-based and knowledge-based information and reasoning.

2.4 The student will evaluate the usefulness of information gained for specific purposes.

2.4.5 Identify information that would be more appropriate for specified purposes or identify better uses of the information gathered, when appropriate.

3.2 The student will identify communication problems and solve them as necessary.

3.2.6 Choose and use problem-solving strategies, when necessary, that contribute to achievement of purposes and needs of audiences.

3.2.8 Evaluate problem-solving strategies from the perspective of achieving original purposes of success in making strategic changes.

Goal 4: Technology Skills

1.2 The student will identify and describe current technologies used to meet a variety of needs, including accessing and managing information, communicating, performing work, and solving problems in a variety of situations.

1.2.1 Identify specific needs for technologies in information search and management, communication, work, problem solving, and other uses.

1.2.2 Identify technologies used to meet needs.

1.2.7 Describe current technologies used to solve problems in a variety of situations, such as calculators, computers, and scientific equipment.

1.3 The student will evaluate the use of current technologies in specific situations.

1.3.1 Identify uses of current technologies in specific situations.

1.3.5 Identify and evaluate different technological solutions for the same or similar uses in specific situations.

1.3.6 Compare analyses and evaluations with others.

1.3.8 Compare and select appropriate technologies for specific situations.

2.1 The student will use technologies in a safe and effective manner.

2.1.1 Identify and describe appropriate uses of technologies in specific situations.

2.1.3 Use appropriate terminologies for technological systems and devices.

2.1.4 Operate and maintain tools and equipment safely and effectively, including computers, calculators, scientific equipment, and machines.

2.4 The student will use appropriate technologies for research, creativity, and problem solving.

2.4.1 Identify need for technologies to increase productivity, to do research, for creative expression, to solve problems, and for other purposes.

2.4.2 Determine how technologies can meet these kinds of needs in specific situations.

2.4.5 Use existing, modified, or new technologies to do research, increase productivity, create new products or processes, for creative expression, to solve problems, and for other purposes.

2.5 The student will monitor, evaluate, and plan to improve personal uses of technologies.

2.5.1 Identify goals and purposes for using technologies in specific situations.

3.1 The student will demonstrate an understanding of the impact of technologies on individuals, society, and the environment.

3.1.7 Determine the limitations of technologies as solutions to problems.

Maryland Core Learning Goals
Geometry

Indicator: 2.3.2 ***The student will use techniques of measurements and will estimate, calculate, and/or compare perimeter, circumference, area, volume, and/or surface area of two and three-dimensional figures and their parts. The results will be expressed with appropriate precision.***

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